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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/222,073	12/29/1998	THOMAS B. SCHALK	5494:39	3686

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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BRIARCLIFF MANOR, NY 10510

EXAMINER

AZAD, ABUL K

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 07/15/2003

25

Please find below and/or attached an Office communication concerning this application or proceeding.

A

Office Action Summary

Application No.

09/222,073

Applicant(s)

SCHALK ET AL.

Examiner

ABUL K. AZAD

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,13-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,13-16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 22.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on April 9, 2003.
2. Claims 1-5, 7, 13-16, and 18 are pending in this action. Claims 1 and 18 have been amended.
3. The applicant's arguments with respect to claims 1-5, 7, 13-16, and 18 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant's arguments or comments, see the detailed discussion in the Response to the Arguments section.
4. In view of applicant's amendment the claim rejection under 35 USC § 112, second Paragraph set forth in the previous office action (Paper No. 15) is hereby withdrawn.

Drawings

5. The corrected or substitute drawings were received on March 28, 2003. The examiner approves the corrected drawing.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-5, 7, 13-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US 6,122,612) in view of Waibel et al. (US 5,712,957).

As per claim 1, Goldberg teaches, "a method of recognizing a spoken digit string," comprising:

"(a) receiving the spoken digit string" (col. 2, lines 45-65, input identifier);

"(b) analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the spoken digit string" (col. 7, lines 1-36, here check-sum operation is used to generate a list of digit string and col. 9, line 24 to col. 10, line 61; here a list of digit strings are arranged based on the likelihood score 'probability score' and any score below the predetermined threshold should be eliminated);

"(c) determining whether individual hypothesized strings of said list satisfy a given constraint, using a given knowledge based recognition strategy" (col. 10, lines 62-67, reads on "compares each remaining substitute identifier with the reference identifiers in data base");

"(d) selecting the first string in the list satisfying the constraint as the recognized string" (col. 10, line 66 to col. 11, line 11; at least one match is found, the user is accepted);

"if none of the hypothesized digit strings satisfy the constrain, (e) prompting entry of the input identifier again" (col. 6, lines 6-11, prompted to provide the input identifier again);

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“(e) prompting entry of a repeated spoken digit string, which is a repeat of the spoken digit string entered in step (a)” (col. 6, lines 1-11, reads on “prompt to provide the input identifier again”);

(ii) “performing additional verification techniques to determine the correct digit string until the constraint is satisfied, and then subsequently selecting the correct digit string, wherein said additional verification techniques include performing at least one of a checksum approach with the N-best list and a personal identification number, a database match comparison with valid entries, digit positional constraints and fuzzy matching criterion” (Fig. 5, elements 535, 550 and 555, as two different techniques to determine the correct digit string and the repeating loop 255 confirm determination of correct digit; col. 10, line 62 to col. 11, line 11, matches identifiers in the database as an additional verification techniques).

Goldberg does not explicitly teach, “analyzing the repeated spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the repeated spoken digit string and selecting the recognized string in accordance with a comparison of the first and second list”. However, Waibel teaches as per Fig. 3 and 4, from a spoken entry, engine 14 generates n-best list and score locate error create alternative list input alternative list to engine 14, Re-spoken the said spoken entry, engine 14 produces secondary alternative list from secondary utterance, and comparison of primary and secondary list a best match is found. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the

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invention to use Waibles teaching in the invention of Goldberg so that a high degree of accuracy is maintained in finding a match for an input identifier (col. 2, lines 16-23).

As per claim 2, Goldberg teaches, "said knowledge based recognition strategy comprises a database matching scheme" (col. 5, lines 4-18, database).

As per claim 3, Goldberg teaches, "wherein step (c) comprises searching a database of valid data strings to determine whether any of the hypothesized digit strings match one of the valid digit strings" (col. 5, lines 4-18).

As per claim 4, Goldberg teaches, "wherein the knowledge based recognition strategy is a checksum scheme" (col. 5, lines 4-18, checksum).

As per claim 5, Goldberg teaches, "wherein the spoken digit string includes a checksum digit, and wherein step (c) comprises calculating a checksum of the hypothesized digit strings and determining whether the checksum matches the value of the checksum digit" (col. 5, lines 19-35).

As per claim 7, Goldberg does not explicitly teach, "wherein the checksum scheme utilizes a Luhan Checksum algorithm." However, the applicant acknowledges that Luhn checksum algorithm is well known in the art (Specification Page 9). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the checksum scheme as a Luhan Checksum algorithm because the choice of the Checksum algorithm is routine experimentation and optimization in the absence of criticality.

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As per claim 13, Goldberg teaches, "wherein the knowledge based recognition strategy is a digit positional strategy and the constraining is a given digit position" (col. 5, lines 36-59).

As per claim 14, Goldberg teaches, "wherein the knowledge based recognition strategy is a digit string length strategy and the constraint is a given digit string length" (col. 5, lines 36-59).

As per claims 15 and 16, they are interpreted and thus rejected for the same reasons set forth in the rejection of claim 1.

As per claim 18, Goldberg teaches, "step of prompting entry of a spoken digit string prior to its receipt in step (a) (col. 6, lines 1-11, reads on "prompt to provide the input identifier again").

Response to Arguments

8. The applicant argues: "Fig. 3 of Waibel merely breaks up the spoken phrase into single words or sub-strings of words, and does not actually provide any disclosure regarding generating a second string of N-best list of different purported strings with probability levels".

The examiner disagrees with applicant's assertion because Waibel teaches, as per Fig. 3 and 4, from a spoken entry, engine 14 generates n-best list and score locate error create alternative list input alternative list to engine 14, Re-spoken the said spoken entry, engine 14 produces secondary alternative list from secondary utterance, and comparison of primary and secondary list a best match is found also claimed limitation

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can be reads on col. 3, lines 10-29. The examiner likes to point out that in the *In re Shepard*, 138 USPQ 148 (CCPA 1963), concluded as "In considering discloser of the reference patent, it is pertinent to point out not only specific teachings of patent but also the reasonable inferences which one skilled in the art would logically draw therefrom".

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine Goldberg with Waibles teaching is high degree of accuracy is maintained in finding a match for an input identifier (Waibles, col. 2, lines 16-23).

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

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Commissioner for Patents

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office whose telephone number is **(703) 306-0377**.

Abul K. Azad

July 8, 2003


Richmond Dorvil
Primary Examiner